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| APPLICATION NO.          | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO.    |
|--------------------------|-------------|----------------------|---------------------|---------------------|
| 10/720,685               | 11/25/2003  | Floyd Ysbrand        | 3462-46             | 3062                |
| 23117                    | 7590        | 09/22/2004           |                     | EXAMINER            |
| NIXON & VANDERHYE, PC    |             |                      |                     | MAYO III, WILLIAM H |
| 1100 N GLEBE ROAD        |             |                      |                     |                     |
| 8TH FLOOR                |             |                      | ART UNIT            | PAPER NUMBER        |
| ARLINGTON, VA 22201-4714 |             |                      | 2831                |                     |

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

16n

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/720,685             | YSBRAND, FLOYD      |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | William H. Mayo III    | 2831                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
 THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is **FINAL**.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-23 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 25 November 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement filed November 15, 2004 has been submitted for consideration by the Office. It has been placed in the application file and the information referred to therein has been considered.

### ***Drawings***

2. The drawings are objected to because Figures 1, 7, and 9 lacks the proper cross-hatching which indicates the type of materials, which may be in an invention. Specifically, the cross hatching to indicate the conductive and insulation materials is improper. The applicant should refer to MPEP Section 608.02 for the proper cross-hatching of materials. Correction is required.

### ***Specification***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The

disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because it contains the terms "comprise" which is improper language for the abstract. Correction is required. See MPEP § 608.01(b). The applicant is required to replace the term with "has".

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3 and 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujikura (JP Pat Num 51-11315). Fujikura discloses that the coaxial cable (Figs 1-3) comprising a tape layer having a shield layer capable of exhibiting positive attenuation of and protection from electromagnetic and radio frequency interference. Specifically, with respect to claim 1, Fujikura discloses a tape layer (2-4) comprising an outer insulative layer (4) formed of PTFE and an inner conductive layer (3) formed of metallic powder dispersed in PTFE (abstract). With respect to claim 2, Fujikura discloses that the inner conductive layer (3) may comprise substantially equal parts of metallic powder and PTFE (100 parts of PTFE to 100 parts of powder, Col 3, lines 1-5). With respect to claim 3, Fujikura discloses that the metallic powder may comprise copper, silver, aluminum, and mixtures thereof (Col 2, lines 20-26). With respect to claims 5-6,

Fujikura discloses that the outer insulation layer (4) is coated with the inner conductive layer (3), wherein the inner conductive layer (3) is cured (i.e. heat treated, abstract).

7. Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Mulrooney et al (Pat Num 5,132,491, herein referred to as Mulrooney). Mulrooney discloses a method of manufacturing an insulated electrical wire (Fig 6) that is shielded from EMI and RFI (Col 1, lines 5-8). Specifically, with respect to claim 1, Mulrooney discloses a method comprising spirally winding around a wire (1 & 2), a tape (4 & 8) having an outer insulating layer (4) and an inner conductive layer (8), and heating and curing the tape (4 & 8) to form a continuously surface thereon (Col 3, lines 15-30).

#### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 5, 10-14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujikura (JP Pat Num 51-11315) in view of Johnson (Pat Num 5,214,243). Fujikura discloses that the coaxial cable (Figs 1-3) comprising a tape layer having a shield layer capable of exhibiting positive attenuation of and protection from electromagnetic and radio frequency interference, as disclosed above with reference to claim 1. Specifically, with respect to claim 10, Fujikura discloses a shielded electrical wire (i.e. coaxial cable) comprising an insulated wire (1 & 2), an conductive layer (3)

surrounding the insulated wire (1 & 2) capable of exhibiting positive attenuation of and protection from electromagnetic and radio frequency interference, wherein the conductive layer (3) comprises a metallic powder dispersed in PTFE (Col 2, lines 15-26), and an insulative layer (4) formed of PTFE surrounding the conductive layer (3), wherein the conductive layer (3) and the insulation layer (4) are formed by a tape that is cured on the insulated wire (1 & 2, abstract). With respect to claim 12, Fujikura discloses that the inner conductive layer (3) may comprise substantially equal parts of metallic powder and PTFE (100 parts of PTFE to 100 parts of powder, Col 3, lines 1-5). With respect to claim 13, Fujikura discloses that the inner conductive layer (3) if formed by dispersing metallic powder in a PTFE solution, heating and curing (i.e. heat treated, abstract) the conductive layer (3) on the insulative layer (4). With respect to claim 14, Fujikura discloses that the metallic powder may comprise copper, silver, aluminum, and mixtures thereof (Col 2, lines 20-26).

However, Fujikura doesn't necessarily disclose the tape being spirally wrapped (claims 5 & 11), nor the inner conductive layer being formed by metallic powder disposed in PTFE dispersion or ink solution (claim 7 & 10).

Johnson teaches a shielded wire (Figs 1-2) comprising a tape layer that prevents buildup of local charges during mechanical separation from the shield thereby reducing triboelectric noise (Col 1, lines 5-15). Specifically, with respect to claims 5 & 11, Johnson teaches a shielded wire (10) comprising a tape layer (16) which comprises carbon filled PTFE, and is spirally wrapped around the insulated conductor (12 & 14, Col 2, lines 33-50). With respect to claims 7 & 10, Johnson teaches that the conductive

inner layer (16) is formed by metallic powder being dispersed in the PTFE (Col 2, lines 33-50).

With respect to claims 5, 7, and 10-11, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the shielded wire of Fujikura to comprise the helically wrapped configuration as taught by Johnson because Johnson teaches that such a configuration prevents buildup of local charges during mechanical separation from the shield thereby reducing triboelectric noise (Col 1, lines 5-15).

10. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujikura (JP Pat Num 51-11315) in view of Hale (Pat Num 3,474,186). Fujikura discloses that the coaxial cable (Figs 1-3) comprising a tape layer having a shield layer capable of exhibiting positive attenuation of and protection from electromagnetic and radio frequency interference, as disclosed above with reference to claim 1. Specifically, with respect to claim 8, Fujikura discloses that an inner insulation layer (2) is disposed on the inner surface of the conductive layer (3).

However, Fujikura doesn't specifically disclose the inner layer and the outer layer being offset laterally to expose the inner and outer lateral end portion of the inner conductive layer (claim 8), nor an adhesive layer being disposed on the inner surface of the inner insulation layer (claim 9).

Hale teaches a shielded cable (Figs 1-5) having a tape shield layer has a lower shield resistance and increase reliability and continuity (Col 2, lines 22-25). Specifically, with respect to claim 8, Hale teaches a shielded cable (Fig 1) having a tape layer (Fig 2)

comprising an inner layer (24) and an outer layer (22), wherein the inner and outer layers (22 & 24) are offset to expose lateral end portion (30 & 46) of the inner conductive layer (22). With respect to claim 9, Hale teaches that an adhesive layer (i.e. bonding medium) may be utilized on the inner surface of the insulating layer (24).

With respect to claims 8-9, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the shielded wire of Fujikura to comprise the offset configuration as taught by Hale because Hale teaches that such a configuration provides a tape shield layer has a lower shield resistance and increase reliability and continuity (Col 2, lines 22-25).

11. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujikura (JP Pat Num 51-11315) in view of Johnson (Pat Num 5,214,243, herein referred to as modified Fujikura), as applied to claim 10 above, further in view of Hale (Pat Num 3,474,186). Fujikura discloses that the coaxial cable (Figs 1-3) comprising a tape layer having a shield layer capable of exhibiting positive attenuation of and protection from electromagnetic and radio frequency interference, as disclosed above with reference to claim 10.

However, modified Fujikura doesn't disclose the tape comprising second conductive layer surrounding insulation layer (claim 15), nor the tape comprising a second insulation layer surrounding conductive layer (claim16), nor the insulation layers are offset laterally on opposite surfaces of the conductive layer to expose inner and outer lateral end portions thereof (claim 17).

Hale teaches a shielded cable (Figs 1-5) having a tape shield layer has a lower shield resistance and increase reliability and continuity (Col 2, lines 22-25). Specifically, with respect to claim 15, Hale teaches a shielded cable (Fig 1) having a tape layer (Fig 2) comprising an inner layer (24') and an outer layer (22'), wherein the inner and outer layers (22' & 24') and further comprising a second conductive layer (52) surrounding the inner insulation layer (22'). With respect to claim 16, Hale teaches a shielded cable (Figs 1-5) having a tape layer (Fig 2) comprising an inner layer (24') and an outer layer (22'), wherein the inner and outer layers (22' & 24') and further comprising a second insulation layer (50) surrounding the conductive layer (22'). With respect to claim 17, Hale teaches a shielded cable (Fig 1) having a tape layer (Fig 2) comprising an inner layer (24) and an outer layer (22), wherein the inner and outer layers (22 & 24) are offset to expose lateral end portion (30 & 46) of the inner conductive layer (22).

With respect to claims 15-17, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the shielded wire of modified Fujikura to comprise the offset configuration as taught by Hale because Hale teaches that such a configuration provides a tape shield layer has a lower shield resistance and increase reliability and continuity (Col 2, lines 22-25).

12. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mulrooney (Pat Num 5,132,491) in view of Mildner (Pat Num 3,325,589). Mulrooney discloses a method of manufacturing an insulated electrical wire (Fig 6) that is shielded from EMI and RFI (Col 1, lines 5-8) as disclosed above with reference to claim 18.

However, Mulrooney doesn't necessarily disclose the wire being cleaned and preheated prior to the tape being wound (claim 19), nor the wire being preheated to a temperature of approximately 650°F (claim 20), nor the wire being cured by passing it through a heated metal compression sealer at a temperature of approximately 800 °F (claim 21).

Mildner teaches a shielded cable (Figs 1-2) comprising a tape layer that protects the inner core from heat damage and increase the electric breakdown strength between the shield and the inner conductors (Col 1, lines 17-25). With respect to claim 19, Mildner teaches a shielded wire (Fig 2) comprising a tape layer (Fig 1), wherein the conductor (10) may be cleaned by any means known for treating the conductors (Col 3, lines 5-10). With respect to claims 20-21, Mildner teaches that the wire (Fig 1) may be heated to 140 °C (Col 4, lines 10-15).

With respect to claims 19-21, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the shielded wire of Mulrooney to comprise the conductor configuration as taught by Mildner because Milder teaches that such a configuration provides tape layer that protects the inner core from heat damage and increase the electric breakdown strength between the shield and the inner conductors (Col 1, lines 17-25).

Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mulrooney (Pat Num 5,132,491) in view of Fujikura (JP Pat Num 3,325,589). Mulrooney discloses a method of manufacturing an insulated electrical wire (Fig 6) that is shielded from EMI and RFI (Col 1, lines 5-8) as disclosed above with reference to

claim 18. Specifically, with respect to claims 22-23, Mulrooney discloses a tape layer (4 & 8) comprising an inner conductive layer (8), which is carbon filled polyester and an insulation layer (4), which may be PTFE (Col 3, lines 15-30).

However, Mulrooney doesn't necessarily disclose the inner conductive layer being metallic powder being dispersed in PTFE (claim 22), nor the metallic powder being selected from copper, iron, nickel, aluminum, silver, gold, and carbon, alone or in combination (claim 23).

Fujikura teaches that the coaxial cable (Figs 1-3) comprising a tape layer having a shield layer capable of exhibiting positive attenuation of and protection from electromagnetic and radio frequency interference. With respect to claim 22, Fujikura teaches a tape layer (2-4) comprising an outer insulative layer (4) formed of PTFE and an inner conductive layer (3) formed of metallic powder dispersed in PTFE (abstract). With respect to claim 23, Fujikura teaches that the inner conductive layer (3) may comprise substantially equal parts of metallic powder and PTFE (100 parts of PTFE to 100 parts of powder, Col 3, lines 1-5).

With respect to claims 22-23, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the conductive polyester material to be made of conductive embedded PTFE utilizing one of copper, silver, gold, or alloys thereof, as taught by Fujikura, since it has been held to be within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Arnaudin, Jr (Pat Num 3,917,900), Lambert (Pat Num 3,312,7750), Vaupotic (Pat Num 5,421,100), Kesler (Pat Num 5,262,589), Kennedy et al (Pat Num 5,210,377), Singles et al (Pat Num 5,477,011), Walter et al (Pat Num 4,785,268), Kincaid (Pat Num 4,327,246), Terakawa et al (Pat Num 5,053,582), Grandy (Pat Num 6,492,588), Suzuki (Pat Num 4,645,868), Van Deusen (Pat Num 5,037,999), Bullock et al (Pat Num 5,107,076), Hajdu et al (Pat Num 4,663,240), Kanbara et al (Pat Num 6,207,266), O'Connor (Pat Num 4,855,534).

***Communication***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William H. Mayo III  
Primary Examiner  
Art Unit 2831

WHM III  
September 15, 2004